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An assessment of online education during the COVID-19 pandemic: A survey of instructors in Iran

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Abstract: This study aimed to examine the technological tools used by Iranian instructors during the Covid-19 pandemic and also to find out more about the advantages and disadvantages of online education in Iran through the eyes of the teachers in this period. In total, 119 instructors participated in this survey study from various parts of the country; the data was collected through an online questionnaire via Google Forms. The top five software that had the highest usage among the instructors were reported to be the locally developed platform for K-12 students, also known as The Student Education Network (SHAD), dedicated educational platforms of Iranian universities, Adobe Connect, Skype, and Moodle and the least frequent ones were Telegram, Google Classroom, and Zoom. While teachers reported many issues when teaching online such as slow internet speeds, unstable connections, increased workload, technical issues, and lack of face-to-face interactions, they also found some benefits in online education such as reduced infection risk, efficiency, higher mobility, and flexibility and increased concentration.

Keywords: Online learning, COVID-19, quality of online education, technology-enhanced learning

INTRODUCTION

A devastating health crisis started in 2019 in Wuhan, China, when the coronavirus disease (COVID-19) caused by SARS-COV2 emerged (Chen Wang et al., 2020). With regard to the number of total cases reported and mortality rate, COVID-19 quickly surpassed recent pandemics, including SARS and MERS (Murphy, 2020). Coughing, sneezing, or direct touch can transmit COVID-19 (Rothan & Byrareddy, 2020). Incubation lasts approximately 5.2 days before symptoms appear (Li et al., 2020). In addition to fever, cough, sore throat, breathing difficulty, and vomiting, COVID-19 can also cause diarrhea (Carlos et al., 2020; Huang et al., 2020). Holshue et al. (2020) have observed cardiac injury, respiratory failure, and acute respiratory distress in severe cases. There is evidence that COVID-19 affects psychological health as well. As pandemics pose a threat to human survival, they instill fear in individuals (LeDoux, 2012; Mobbs et al., 2015). People are worried about getting infected, coming into contact with contaminated surfaces, and being close to those who may be ill during COVID-

19. Those who fear infection may avoid others and withdraw from daily routines (Polizzi et al., 2020). In addition to their own health, individuals are also worried about the health of the people they love, particularly the elderly or those suffering from physical health problems (Fiorillo & Gorwood, 2020). As a result of government efforts to reduce COVID-19 transmission, several strategies have been implemented, including social distancing, isolation, and quarantine (Devi, 2020). By themselves and the way they are communicated to society, these strategies can also induce fear responses (Brooks et al., 2020; Devi, 2020; van Bavel et al., 2020).

As a consequence of social distancing, individuals become isolated from their family members, friends, coworkers, workspaces, and educational institutions. It also causes them to withdraw from comforting activities and routines like going out to dinner, seeing friends, or exercising, making them feel unstable, insecure, and irritated (Polizzi et al., 2020; Van Bavel et al., 2020). Moreover, they switch daily from uncertainty to hope regarding the course of the pandemic and the socioeconomic change (Buheji et al., 2020). Fear-inducing experiences can have adverse psychological effects on a person. These effects include an increase in stress levels. After COVID-19 broke out on a global scale, nearly every educational institution started offering virtual classes. It was just an option before, but online courses have become a sine qua non since then (Monjezi et al., 2021). Crawford et al. (2020) link this rapid transformation to numerous obstacles and challenges. In response, educational institutions worldwide created online learning materials for students from every academic field using the available technology (Kaur, 2020). Many academic institutions focus on transferring educational content to the digital world rather than online teaching and learning. It was a reminder that academic institutions lack resources and that students are socially marginalized in a world where lack of internet access and the latest technology affect organizational responsiveness and students' capability to participate in digital learning (Zhong, 2020).

BACKGROUND OF THE STUDY

Basilaia and Kvavadze (2020) investigated the capacity of Georgia to implement online education in the face of the Covid-19 pandemic in a private school with 950 students. The authors reviewed the available platforms in the country. They identified platforms used with government support, such as the online portals, TV schools, Microsoft Teams for public schools, and alternatives like Zoom, Slack, Google Meet, and EduPage. Their results confirmed that the quick transition to the online form of education was a success in Georgia. They also concluded that the pandemic would cause the creation of new laws, regulations, platforms, and solutions if future pandemics arise.

In a survey of 762 students, Coman et al. (2020) determined the ways that Romanian universities were able to provide education during the Coronavirus pandemic, when, in a short amount of time, universities had to adapt to exclusively online teaching and learning, they also analyzed students' perception regarding online learning. Researchers found that Romanian universities were not prepared for exclusively online learning and that technical problems and teachers' inexperience were the most significant problems but students' lack of interaction with teachers and peers was not a major setback. Distance education robs the teachers of the ability to interact with students genuinely (Dhawan, 2020). Teachers' ability to provide immediate feedback and assistance to students is greatly diminished in distance education. Things get even more complicated when it comes to online assessment. This is because teachers cannot directly observe how students engage with various test forms and items. Even if we take logistic aspects of online assessments like internet access and speed, and technology literacy for granted, there are still assessment-specific issues that are more likely to impact student performance (Martin,

2020). According to Ghanbari and Nowroozi (2021), many teachers raised concerns about the security of online exams or the possibility of cheating. Their goal was to reduce the likelihood of cheating in online exams. As per the teachers, it should be the administration's responsibility to minimize academic dishonesty. Additionally, teachers should be taught how to create essay-type items for online exams to reduce the likelihood of cheating.

Adnan and Anwar (2020) examined Pakistani higher education students' attitudes toward compulsory online and distance learning university courses amid the COVID-19 pandemic. A survey was conducted to find out how undergraduates and postgraduates feel about distance education in Pakistan. It was found that online learning could not produce the desired results in underdeveloped countries like Pakistan. This is because most students don't have access to the internet due to technical and financial issues. A lack of face-to-face interaction with the instructor, response time, and the lack of traditional classroom socialization were the main issues raised by students in higher education. They also concluded that online learning could not be that effective in not technologically advanced countries. Todd (2020) surveyed all 52 English language teachers at one Thai university to determine the potential educational problems during the pandemic. They also asked for teachers' comments about these problems and the advantages and disadvantages of online teaching. Despite initially rating many of the problems as serious, teachers quickly found solutions, such as dividing lessons into a greater number of shorter units. The issue of identifying appropriate, stimulating activities and marking student assignments remained, however. Despite the advantages of online teaching, teachers cited the difficulties of achieving some English language objectives and gauging student reactions. In another paper, Hartshorn and McMurry (2020) examined the effects of the COVID-19 pandemic on a group of university ESL students in America. The study found that the pandemic increased stress levels for both students and teachers. During the pandemic, both the practitioners and their students experienced various accumulating stressors in their lives, which decreased their priority for teaching and learning. Students were more affected than teachers by the transition to online learning. As a result, students experienced less language development during the pandemic for speaking than writing.

Monjezi et al. (2021) examined English language instructors' concerns about virtual classes during the COVID-19 pandemic at two Iranian universities. The researchers concluded that infrastructure should be improved, and teachers should be more resourceful, flexible, and patient while teaching online. Additionally, they argued that instructors should be prepared for a significant shift in their teaching paradigm. In a similar study, Khatoony and Nezhadmehr (2020) looked into the challenges English as a Foreign Language (EFL) teachers face in implementing online teaching during Coronavirus pandemic conditions in Iran. These researchers explored the challenges faced by 30 EFL teachers in English language institutes in Iran and their virtual classroom efficiency using questionnaires and interviews. The study found that Iranian EFL teachers could use applications and platforms efficiently. Still, many challenges remain, including a lack of appropriate materials, learners' lack of attention, demotivation towards online classes, and a lack of funding and support for language institutions. Moreover, they discovered that Iranian teachers have positive attitudes toward adopting technology and believe that technology can help decrease the distance between students and teachers in such situations. Salmani et al. (2022) assessed the e-learning experiences of Iranian nursing students during the COVID-19 pandemic in a qualitative study. Students believed that e-learning could complement face-to-face education but not replace it despite the perceived benefits. In another recent study, Azizi (2022) demonstrated Iranian English teachers' perceptions regarding the advantages and disadvantages of online classes during the COVID-19 pandemic with a phenomenographic approach (using reflective written statements). Their findings yielded five benefits, including flexibility, self-directedness, cost-effectiveness, improvement of professional competence, increased motivation, and four disadvantages:

additional workload, technical and institution barriers, absence of face-to-face interactions, and student dishonesty.

Last but not least, in a narrative review study, Dastani (2020) found that Adobe Connect, SkyRoom, and Navid platform were the most popular online teaching tools in Iran's universities of medical sciences during the COVID-19 pandemic. Iran's medical universities faced several obstacles in providing online education for students, including students' uneven access to appropriate hardware, software, and communication tools, students' insufficient knowledge of information technology tools and e-learning, and professors' lack of adequate interaction with students. The present study builds upon previous research in this field based on the literature review presented above.

PURPOSE OF THE STUDY

In this descriptive-survey study, the researcher had three main goals first, to evaluate technical support and tools used by the Iranian instructors during the Covid-19 pandemic, next to examine the advantages and disadvantages of online learning, and finally, to find out more about acceptance and satisfaction with online education in Iran.

The focus of the study are as follows:

1. Did you get technical support/recommendations when organizing online teaching of your course (from the university, tech support, tech department, etc.)?
2. What software were you using to hold classes online?
3. What resource did you ask your students to send assignments to?
4. What problems did you face when organizing and holding online classes?
5. What benefits of online learning are there for you?
6. Do you find online education satisfactory?
7. Would you like to teach a part of your course online?
8. Do you find online learning critical in the long run?

According to Bakhmat et al. (2021), because no official recommendations were made by the Ministry of Education and Science of Ukraine, it was largely up to lecturers to decide on which digital tools and platforms to use. However, Ukraine and Iran are in two different continents with considerable socio-cultural and educational dissimilarities, so the situation could vary in Iran in comparison to Ukraine; the educational system is divided into K-12 education and higher education, teachers and students in the K-12 system mostly use The Student Education Network (Persian: شبکه آموزشی دانش‌آموز) with acronym شاد (SHAD), which is developed and supervised by Iran's Ministry of Education. Higher education is under the Ministry of Science, Research, and Technology supervision. While most universities in Iran have their dedicated virtual learning portals, some tools such as Adobe Connect and SkyRoom are also utilized by some of them (Haghighi et al., 2020; Iranmanesh et al., 2020). In addition to the software above, there are other applications that teachers widely use worldwide, so it is possible to compare the results of the studies to clarify some of the variations (Crawford et al., 2020; Dastani, 2021). In light of the above reasons, the names of a few missing tools were added to the pre-existing questionnaire options regarding the digital tools.

METHOD

The researcher used a survey questionnaire developed by Bakhmat et al. (2021) to target instructors who had taught online courses during the quarantine period. Before conducting the study, the researcher sought the permission of the developer of the questionnaire to use it, then translated it to Farsi as accurately as possible, and placed it in Google Forms as designed initially in Ukrainian.

Data Collection

The survey was conducted between January 15th, 2022, and March 15th, 2022, after the sixth wave of the pandemic caused by the Omicron variant (Al Jazeera, 2022). A link to the survey was posted on WhatsApp and Telegram groups related to the education field on several occasions in order to gather the required data. Bakhmat et al. (2021) used Facebook, but the current researcher went with WhatsApp and Telegram since Facebook does not attract as much attention in Iran as the two other platforms. As mentioned before, the survey was created via Google Forms, and the data was also collected using the same tool. There were a variety of question types, such as multiple choices, checkboxes, and short open-ended answers, which were used to fill the researchers' information gap. In total, there were 119 responses. The participants responded to the survey anonymously and with free will.

FINDINGS

Respondents' Demographics

A large majority (95.8%) of the survey respondents (n=114) held teaching positions, while only 4.2% held both instructional and educational administrative positions (n=5). The respondents were scattered over 18 provinces across the country, Tehran (14.29%), Alborz (11.76%), Razavi Khorasan (10.92%), Isfahan (9.24%), Fars (7.56%), East Azerbaijan (6.72%), Khuzestan (5.88%), Mazandaran (5.04%), Kerman, Sistan and Baluchestan, and West Azerbaijan (each 4.21%), Markazi and Hamedan (3.36% each), Lorestan and Kermanshah (2.52% each), Gilan and Kurdistan (1.68%) and finally, 0.86 from Qom (see Figure 1).

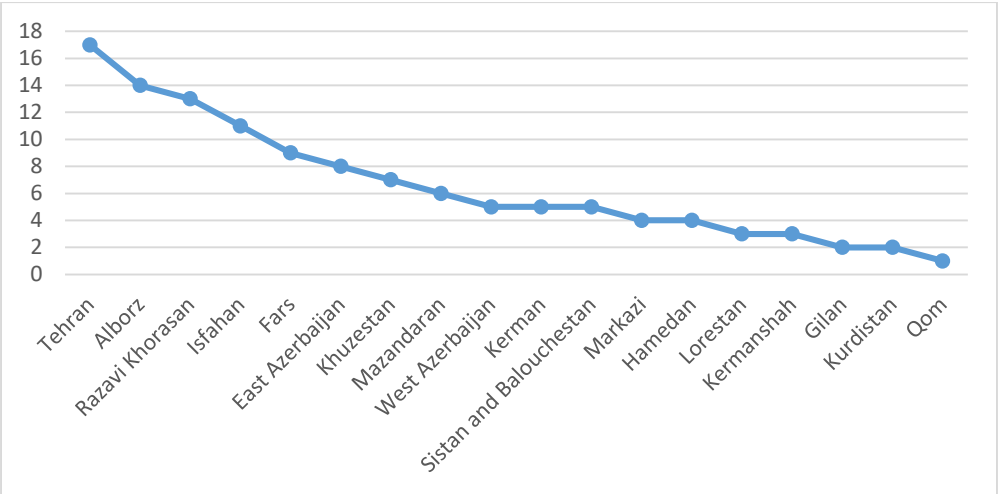

Figure 1: Geographic distribution of the survey respondents

Technical Support and Tools

Among respondents, 74 instructors received technical support/recommendations when organizing online courses (from the university, tech department, etc.). However, 42 of them did not receive any, and only 3 chose partial technical support because the support they got did not solely come from their institution (see Figure 2).

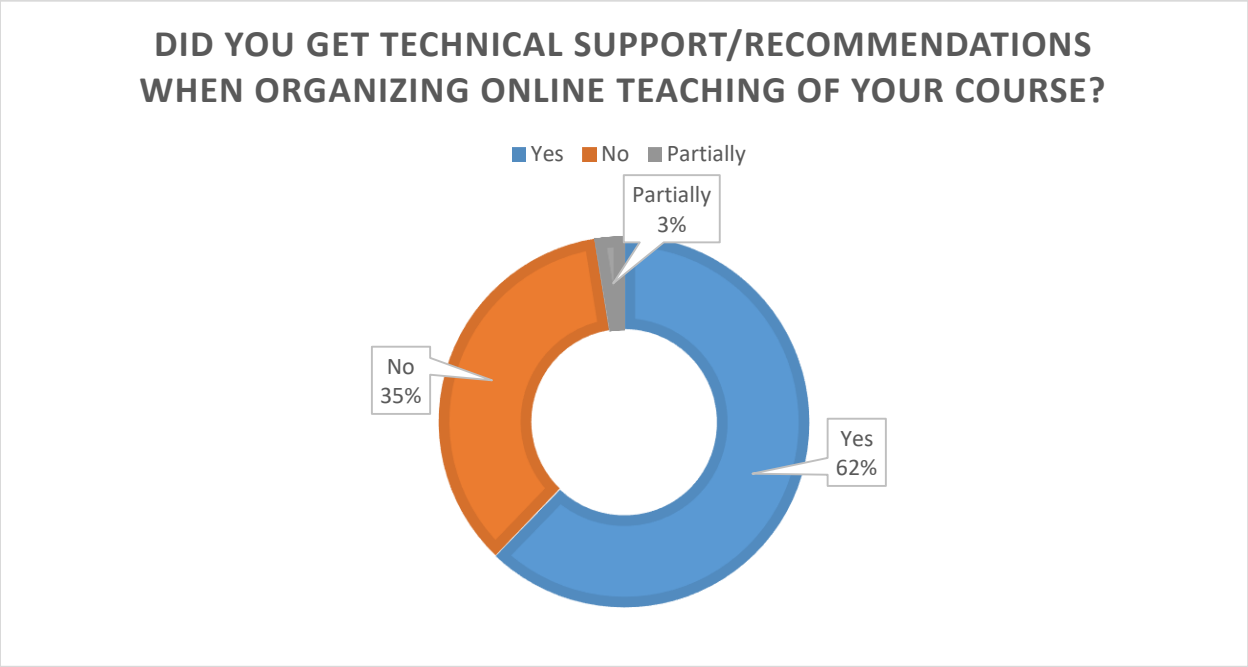

Figure 2: The response rate of getting technical support from universities

In response to the checkbox question, "What software were you using to hold classes online?" the most prevalent answer was The Student Education Network (SHAD) with 57 responses, followed by the university's dedicated virtual education system with 41 votes. Adobe Connect was chosen 29 times, followed by Skype at 25 and Moodle at 24. Next, among the two most commonly used instant messaging apps in Iran with audio and video conferencing capabilities, WhatsApp and Google Meet were selected 21 and 17 times. Subsequently, SkyRoom was chosen by 13 participants. Moreover, the respondents selected Telegram and Google Classroom 6 and 3 times, respectively. Finally, only two teachers chose Zoom. It is important to note that Telegram and Zoom cannot be accessed in Iran without implementing a Virtual Private Network (VPN) for regulatory reasons, which may not be accessible to everyone or may negatively affect the connection speed; the same situation also exists for the Google Classroom (not to be mistaken with Google Meet) at the time of preparing this paper (see Table 1). Some teachers had used more than one platform, and there was an option "Other" for them to add the platform they were using, but not listed.

Table 1: Analysis of online class software implemented by the instructors

№	Response option	n	%
1	SHAD	57	23.95
2	University's platforms	41	17.23
3	Adobe Connect	29	12.18
4	Skype	25	10.50
5	Moodle	24	10.08
6	WhatsApp	21	8.82
7	Google Meet	17	7.14
8	SkyRoom	13	5.46
9	Telegram	6	2.53
10	Google Classroom	3	1.26
11	Zoom	2	0.85
	Total	238	100

The next question dealt with how instructors wanted their students to submit their assignments. While 45 respondents used SHAD to gather homework, 42 asked students to send their assignments via the university's e-learning platform. Fewer instructors (17) indicated that they had provided an email address to the students to collect their assignments, and even fewer (15) asked their students to deliver their homework through instant messaging platforms (see Figure 3).

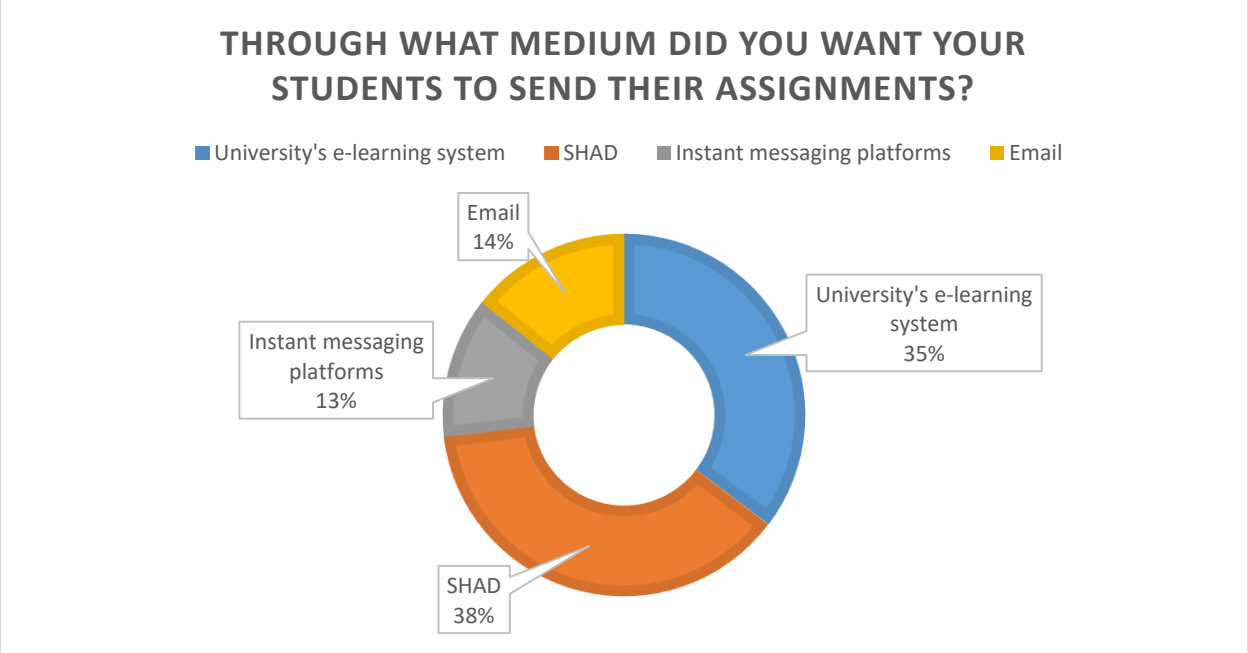

Figure 3: Resources used by the instructors to collect students' assignments

Advantages and Disadvantages

All open-ended answers were grouped into twelve categories based on keywords (see table 3). The most prevalent problem was the slow internet speed in Iran, reported 68 times, followed by poor connection stability (reported 28 times). The third most common issue was increased workload (mentioned 23 times). Aside from the long hours spent teaching in front of their devices, some teachers also had to create online exams and correct the papers, leading to work-life imbalance; some of the teachers added that they had to be online more than they had expected and that they had to digitalize the materials that were taught previously through physical means; sometimes, they had to wait for all of the students to get online at the beginning of the class, resulting in overall longer sessions. Technical issues related to hardware and software were reported 22 times, including microphones and cameras not working, modems or routers not functioning correctly, getting rebooted, and audio being out of sync with video while video conferencing.

Lack of face-to-face interaction was another major problem for 19 teachers since they couldn't naturally read their students' facial expressions or body language and felt that online teaching might sometimes feel unrealistic since teachers could not read the students' body language. Seventeen instructors said that sudden power outages or unannounced power cuts were a problem for them; this should be mentioned that this problem could be limited to Iran and some other countries with the same circumstances. For 15 teachers, students getting distracted by their digital devices or home environment was an issue since a teacher reported that when some students get online, they do other things with their devices that are not always detectable. Some teachers (12) reported that they had to pay extra for the internet while holding online classes, and some of them also had to upgrade their devices or buy new ones to be suitable for online teaching, which their institution did not cover, and 11 of them had concerns about the higher probability of students cheating in online exams. Seven instructors mentioned that students did not have the same motivation as in traditional classes. Among the respondents, four indicated that they could not resolve it when faced with technical issues due to a lack of proper technical support from their institutions. Lastly, only three teachers stated that low

digital literacy was a barrier to them, and one of them mentioned that they did not know how to compress recorded videos before uploading them.

Table 2: Analyzing the problems faced by online instructors

№	Demerits	n	%
1	Low internet speed	68	29.69
2	Unstable internet connection	28	12.23
3	Increased workload	23	10.04
4	Technical issues	22	9.61
5	Lack of face-to-face interaction	19	8.30
6	Power Outages	17	7.42
7	Distractions	15	6.55
8	Cost of internet and gadgets	12	5.24
9	Cheating	11	4.80
10	Lowered motivation	7	3.06
11	Lack of technical support	4	1.75
12	Digital incompetence	3	1.31
	Total	229	100

After highlighting the problems, the respondents were asked to elaborate on their encountered advantages while teaching online. According to keywords, their comments were grouped into eleven categories (see table 3). The most mentioned factor was safety against infection for instructors and their students (39 times). The second most mentioned item (31 times) was efficiency, as they did not have to invest time, money, and energy in transportation and non-classroom preparations, so it was beneficial from that perspective. Fifteen teachers cited higher mobility as they were not confined to conducting classes from a particular geographical location.

Another factor that 13 instructors appreciated was higher flexibility since their students could record the class and play it back at a later time to learn the missing points at their own pace and learn the materials better. 12 teachers indicated that during online teaching, they experienced higher concentration and 10 of them said that they could better take advantage of multimedia to conduct their instructions via online platforms. Nine instructors stated that they had experienced lowered anxiety during online teaching rather than in actual physical classes. Eight teachers mentioned that they had better control over ongoing interactions in the classroom in online courses, and 6 of them said that they could even acquire new teaching and

technical skills during this period. 4 teachers believed that teaching online enhanced their listening abilities. Finally, three teachers believed that there was no benefit in e-learning.

Table 3: Analyzing the advantages reported by online instructors

№	Merits	n	%
1	Reduced risk of infection	39	26
2	Efficiency	31	20.67
3	Higher mobility	15	10
4	Higher flexibility	13	8.67
5	Increased concentration	12	8
6	Ease of using of multimedia	10	6.67
7	Lowered anxiety	9	6
8	Control over interactions	8	5.33
9	Acquiring new skills	6	4
10	Improved listening skills	4	2.66
11	No advantage	3	2
	Total	150	100

Acceptance and Satisfaction with Online Education

Next, the survey respondents were asked about their satisfaction and general acceptance of online education. While 74 instructors did not find online education satisfactory, 33 participants found it to be adequate, and 12 teachers found it to be agreeable to a degree (see figure 4).

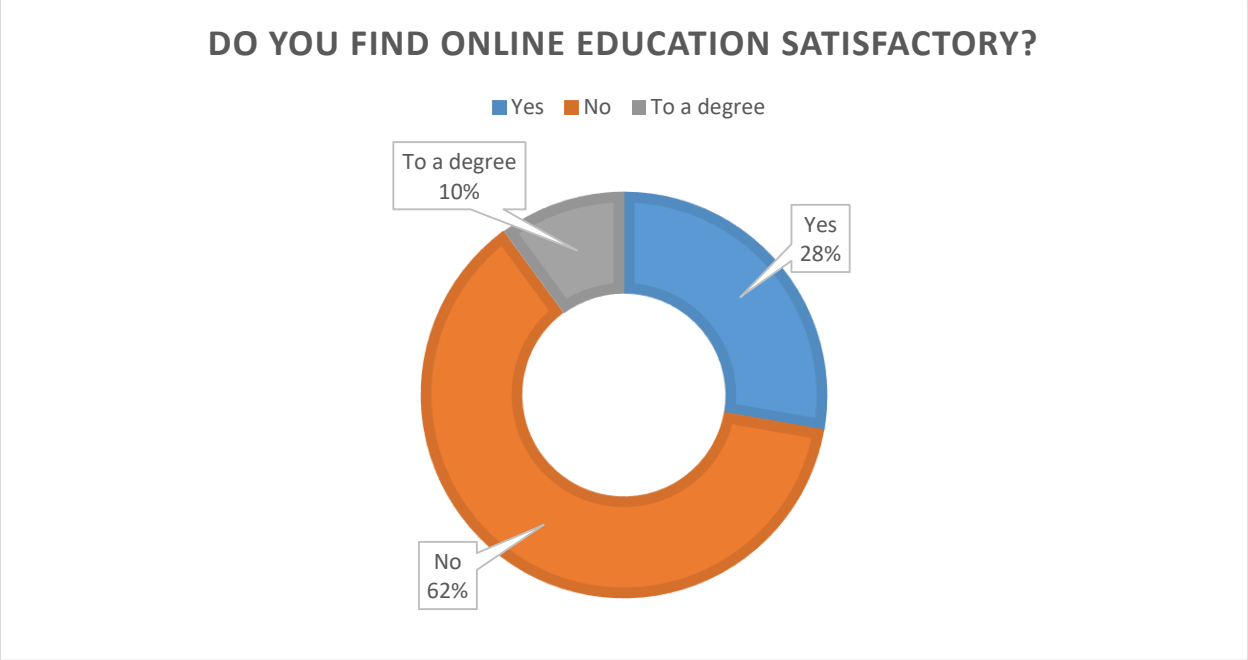

Figure 4: Acceptance and satisfaction with online education

Intentions of the Instructors Regarding Online Teaching

When asked about the intentions of teachers regarding the future of their instructions, 40 of them indicated that they do not intend to teach online, 31 stated the opposite, 38 said that at least a portion of their classes are still held online, and ten teachers said that all of their courses would be held online (see figure 5).

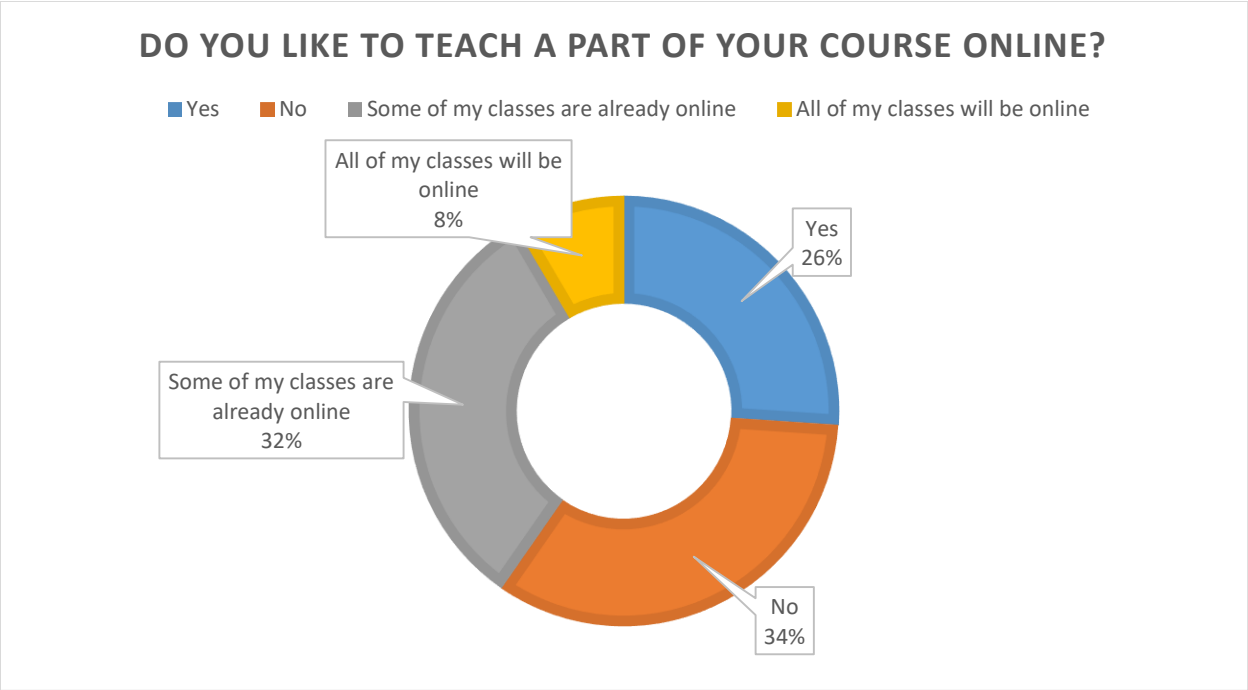

Figure 5: Perceived intentions of instructors regarding online teaching

The Importance of Online Education in the Long Run

In the final question, instructors were asked about whether they consider online teaching favorable in the long run. Seventy-two teachers stated their disapproval, and 25 of them said that they instead a mixture of online and offline learning. Only 13 teachers found online teaching to be fruitful in the long term and 9 teachers support it if it is used just for emergency e-learning scenarios (see figure 6).

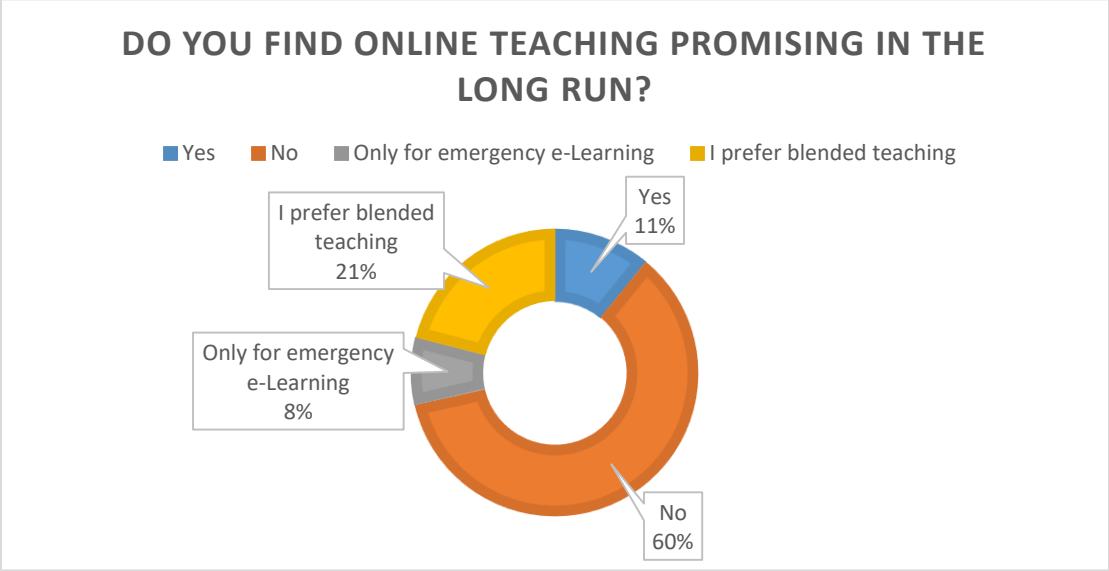

Figure 6: Online education's importance in the long run

DISCUSSIONS AND CONCLUSION

The present study aimed to examine the opinions of instructors and teachers in Iran during the COVID-19 pandemic and determine what tools they had used most to cope with the challenges it brought. There is a considerable challenge to any education system when the traditional face-to-face system is suddenly replaced by an online one. In the developing world, however, it is more prevalent since the infrastructure is not ready. In addition to slow internet speeds, unstable connections, and power outages, Iranian instructors encountered various hardware and software issues. Instructors may suffer from a higher workload because they have to make online versions of their tests and teaching materials. They also have to deal with the feedback process of assignments on their digital devices. Sometimes, teachers might feel that their interactions with students and coworkers are severely limited while using online teaching platforms, and they may also feel burdened while giving feedback; not working in an actual academic environment may also lower instructors' motivation. Students get more easily distracted in online environments, and they are more prone to cheating in online exams.

Teaching online can be far more difficult for language teachers since there is not an efficient way to, for instance, divide the students into groups of two for a speaking task practice and at the same time exert the same level of moderation over them as what teachers are used to in traditional classes. Monjezi et al. (2021) stated that the primary missing factor in an online speaking class is the interaction between the students. The teacher can make the students write conversations on their own and share them with the class, but it will not be the same experience as real-world interactions. Teachers may also like to interact with the students and other

teachers in a physical, academic space. Certainly, person-to-person interaction in the learning environment facilitates the transfer of ideas and helps identify problems posed during this transfer; virtual teaching makes it difficult to discern who has understood the subject, who might be tired, or who needs more attention. (Melchor-Couto, 2019; Sert, 2019). Ensuring online exams security is also of great concern for teachers since there is no direct supervision; it will be much harder to guarantee the reliability of online tests since teachers and the administration have to figure out how to devise tests that reflect students' true proficiency while preventing academic dishonesty. Online teaching may also negatively affect formative assessment since it may become harder for teachers to provide an accurate and valid assessment of the students (Leakey, 2011).

Online teaching is not void of benefits; in emergency e-learning situations caused by contagious viruses, online learning becomes the only option to reduce the risk of infection. Teachers do not have to commute to classes. They can also share long-lasting teaching materials in the form of multimedia files with their students, and students will have more time to learn at their own pace, which may lead to higher autonomy and self-directed learning. Some teachers may feel that an online class provides more control and mobility while reducing stress, and it might even help them acquire a new set of skills.

The variety of tools used for online learning can vary from country to country or even from institution to institution based on policies and regulations. While in Bakhmat's et al. (2021) study, the most used software for holding online classes were Zoom, Viber, Skype, and Google Meet; in this study, however, the most used software were SHAD, University's platforms Adobe Connect, and Moodle and some of the tools mentioned in Bakhmat's study weren't reported to be used to conduct online in Iran such as Canvas and Jitsi Meet. Instead, Iranians reported using two other software, SkyRoom, and Telegram. Additionally, Bakhmat et al. (2021) focused only on the lecturers of higher education institutions (HEIs); but the present study sought the opinions of both K-12 and higher education instructors. Furthermore, the current study had a larger group of participants, 119 instead of 60.

Better infrastructure can make online teaching more effective. Online classrooms with inadequate software and hardware infrastructure can be challenging, especially for teachers who do not have sufficient digital competence. This can cause educators psychological and even physical stress while working in self-isolation. Another challenge the teachers faced was the lack of financial support from an administrative standpoint to provide the needed equipment. According to Instructors are needed to be motivated about online teaching and should be provided with appropriate resources and support to improve the quality of online education (La Rotta et al., 2020). As Altun and Johnson (2022) point out, online education directors should also advise educators to read and follow related literature and conduct long-term research to grasp the differences between e-learning and traditional teaching. In addition, they recommend that educators learn from various past experiences to improve the quality of online education.

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